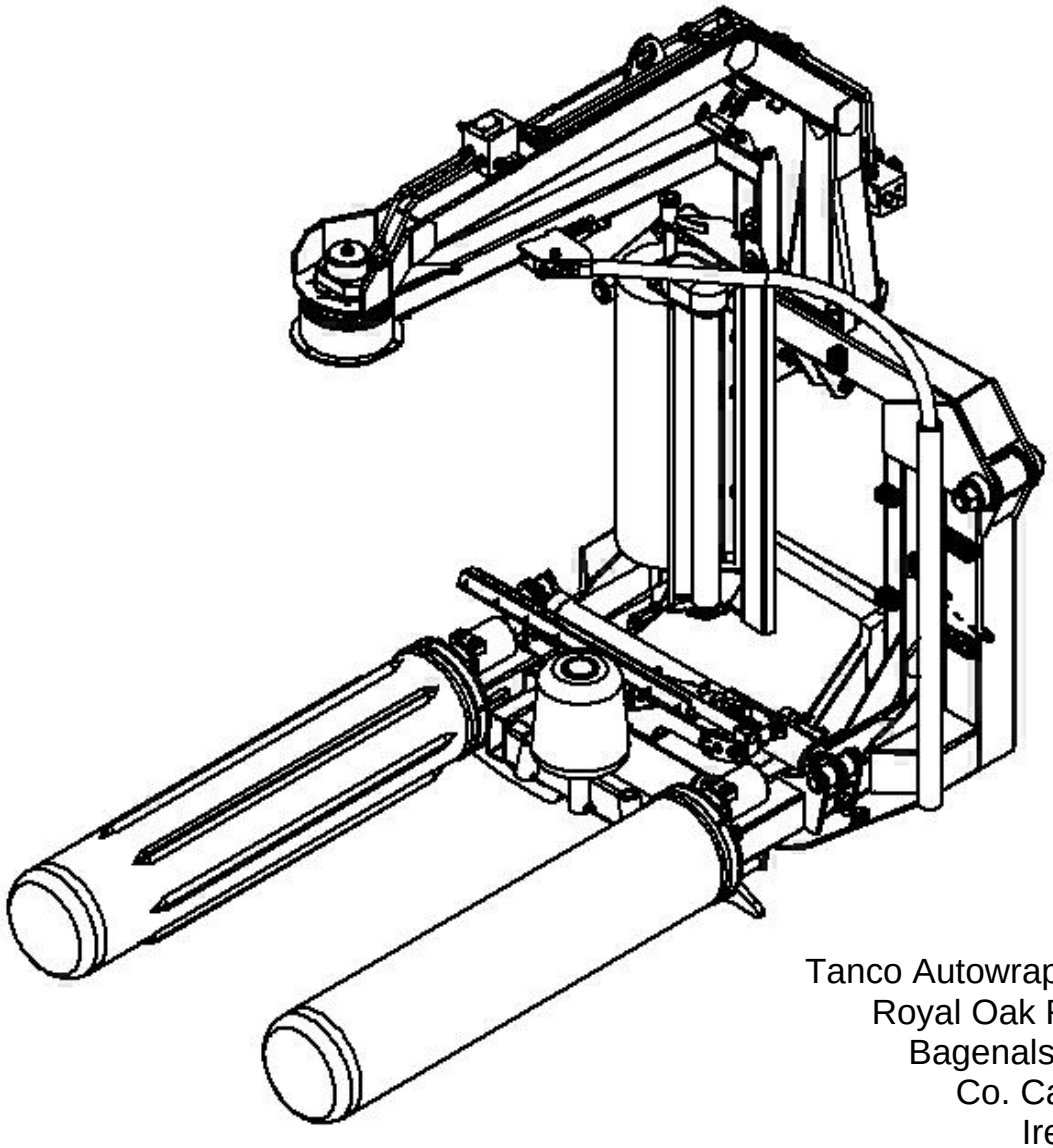
1300 EH
OPERATORS HANDBOOK
WD66-1300EH-M0108



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GUARANTEE

Subject to hereunder provided, the sellers undertake to correct either by repair or at their election by replacement any defect of material or workmanship which occurs in any of its goods within twelve months after delivery of such goods to first user, with the exception of contractors or commercial users when warranty period is six months.
In respect of Autowraps the warranty period is for 12 months or 8000 bales, whichever occurs first.

The term goods when used in this document means the article or articles described in invoices as sold by the sellers but dose not include equipment or proprietary parts or accessories not manufactured by the sellers. The sellers, however, undertake to pass on so far as they legally can to the first user the benefit of any warranty given to the sellers by the suppliers of such equipment, parts or accessories.
This understanding shall not apply to:-

(a) Any goods that have been sold by the first user.
(b) Any goods which have been injured by unfair wear and tear, neglect or improper use.
(c) Any goods the identification marks of which have been altered or removed.
(d) Any goods that have not received the basic normal maintenance such as tightening of bolts, nuts, tines, hose connections and fittings and normal lubrication with the recommended lubricant.
(e) The use of any product on tractors exceeding the recommended horsepower.
(f) Any goods that have been altered or repaired other that on instruction or with the written approval of the seller or to which any part not manufactured or having written approval by the sellers have been fixed.
(g) Any second-hand goods or parts thereof.

Any allegedly defective part or parts returned to the seller must be sent carriage paid. No claim for repair or replacement will be entertained unless upon discovery of the alleged defect written notification is sent to the Sellers giving, at the same time, the name of the Buyer from whom the goods were purchased and the date of purchase, together with the full details of the alleged defect and the circumstances involved, also the serial number of the machine etc.

The sellers shall be under no liability to their Buyers and first or subsequent users of their goods or to any other person or persons for loss or damage howsoever arising in respect of either personal injuries or for arising out of, or in any other way connected with or arising from the manufactures sale, handling, repair, maintenance, replacement or use of its goods or the failure or malfunction of any of its goods.
Representation and/or warranties made by any persons (including Buyers and employees and other representatives of the Seller) which are inconsistent or conflicting with these conditions are not binding upon the sellers unless given in writing and signed by a director of sales.

CLAIMS

If you wish to make a claim under the guarantee:

1: Immediately, stop using the machine.

2: Consult with your Tanco dealer (supplier). He/She can download a warranty claim form on-line. This should be filled out and e-mailed to distributor and forwarded to relevant contact person in Tanco. Please ensure all relevant information is included on this form

3: Consult with your Tanco dealer (supplier)and have him forward your claim and the damaged item to Tanco.

USER'S MANUAL

TANCO AUTOWRAP 1300 EH

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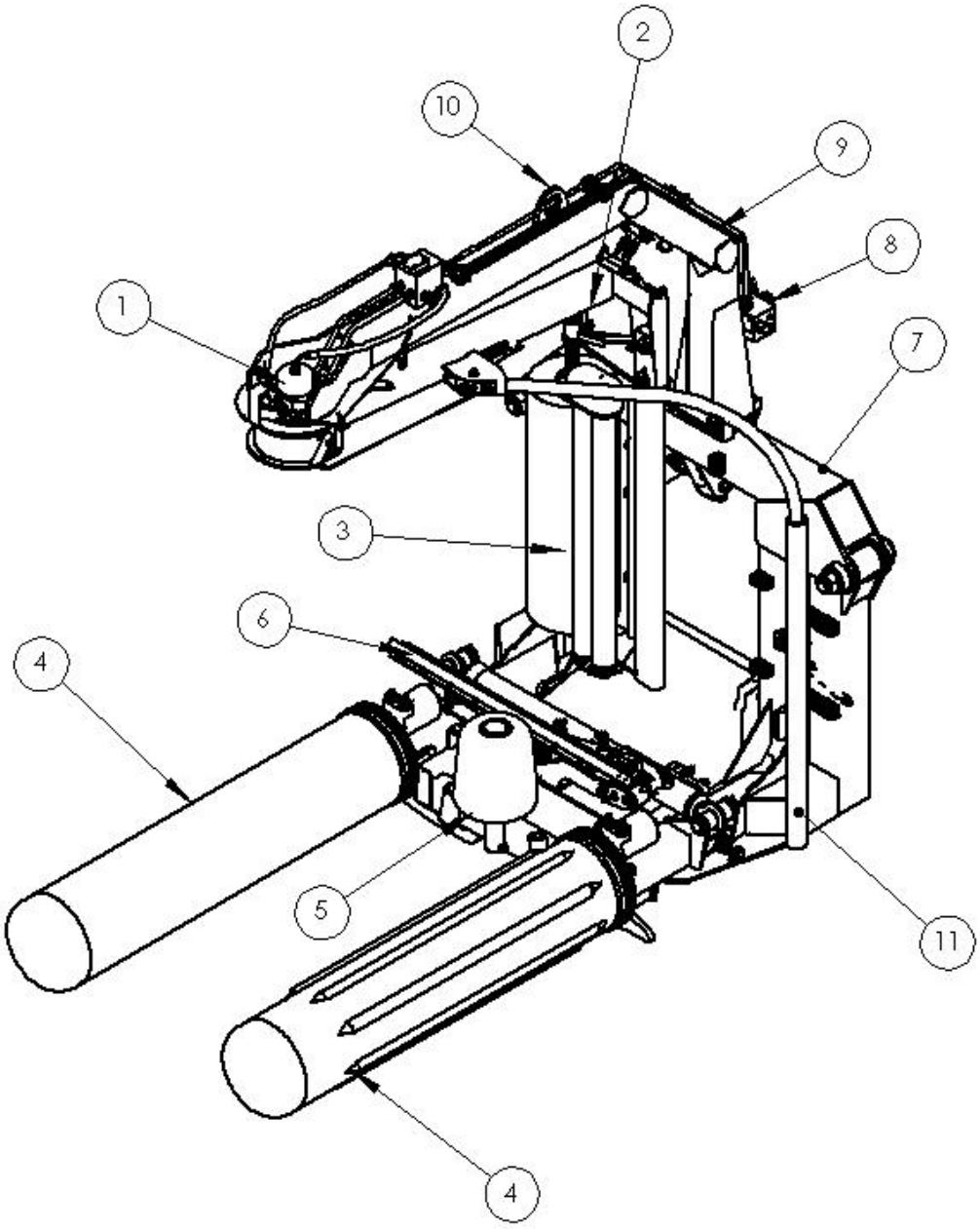
TANCO AUTOWRAP 1300
Bale wrapping machine



1.	**Wrapping arm motor**	**7**	**Main frame**
2.	**Wrapping arm**	**8**	**Speed control**
3.	**Dispenser**	**9**	**Stationary arm**
4.	**Rollers**	**10**	**Lifting sling**
5.	**Support roller**	**11**	**Emergency stop***
6.	**Cutter**		

1.0 INTRODUCTION.

Tanco Autowrap Ltd congratulates you with the choice of TANCO AUTOWRAP bale wrapping machine. We are certain you will be satisfied with the machine, and that you will have the pleasure of your investment for many years.

The TANCO AUTOWRAP bale wrapping machine has more features than any other bale wrapping machine available. TANCO AUTOWRAP can pick up the bale, wrap and stack them without the operator leaving the tractor cab. This system is protected by patent laws.

TANCO AUTOWRAP 1300 is hydraulically driven by the tractors hydraulic system, and is controlled from the tractor cab by an automatic control unit. The machine can either be mounted to three point linkage, front mounted with quick-couplers to the tractors front loader or on a wheel loader. Then it's possible to stack the bales upon each other.

TANCO AUTOWRAP 1300 is designed to wrap bales of grass, hay or straw, with nominal diameter of 1.1-1.5 m, and weights up to (1200kg). The machine was developed and has been improved since it's beginning in 1986, and is now a very reliable and safe machine with high security built in.

This manual is meant to explain how TANCO AUTOWRAP is prepared, mounted, used and how it works, and shall together with the spare part's list be a reference for maintenance and troubleshooting. So take good care of the books, they are a part of the machine.

Read carefully through this manual, and specially chapter 2.0, safety instructions, before starting the machine, and follow the instructions thoroughly. If problems should occur, check with chapter 16.0, and try to find out what is wrong. Ask your dealer for advice before you make the problem worse than it is.

* **EMERGENCY STOP. Tanco Autowrap 1300 is equipped with a so-called emergency stop on the wrapping arm. This device stops all functions momentarily, but is per definition not an emergency stop, because it does not shut down the inputs. But it has the same function, so we have decided to call it an emergency stop in this manual.**

Technical Specifications	AUTOWRAP 1300
Height in working position, min. / max.	2420 mm
Width, min. / max.	1300mm
Length, min. / max.	2450 mm
Weight	590 kg
Wrapping arm speed, recommended	22 revolutions' per minute
Wrapping arm speed, max.	27 revolutions' per minute
Bale size, max.	1500 mm Diameter
Bale weight, max.	1200 kg
Capacity	Approx. 25 bales per hour
Pre-stretcher	750 mm
Hydraulic connection	1 pcs. single working, + free return
Oil pressure / amount, min.	180 bar / 15 liters per minute
Oil amount, max.	40 liters per minute
Counter pressure, max.	10 bar
Electric connection	12 V DC

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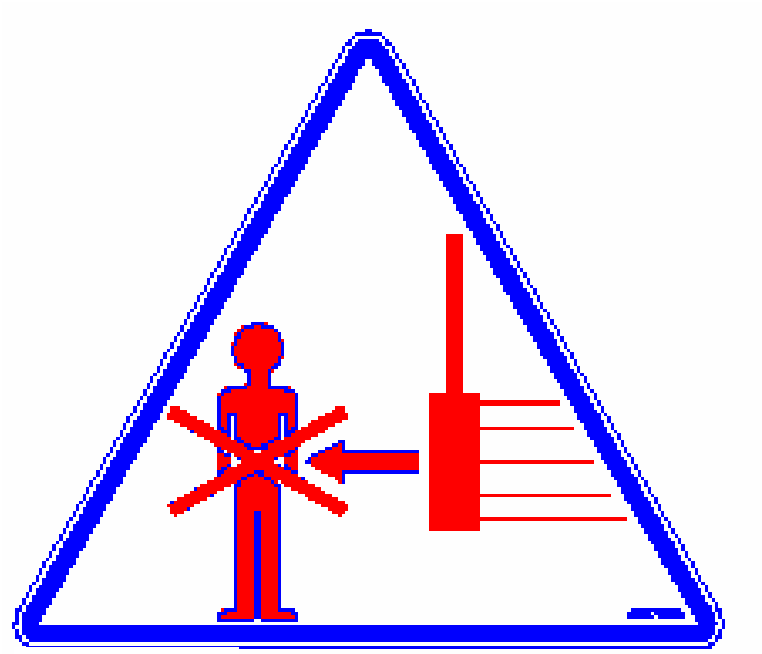


Fig.: 2-1

2.0 SAFETY PRECAUTIONS.

Tanco Autowrap Ltd does not take responsibility for damages that may occur to machine, persons or other equipment, because of the machine NOT being used as described in this manual, or because of the safety precautions NOT being followed.

2.1 SAFETY EQUIPMENT.

Before using the machine, make sure that all guards and covers are securely fitted. The machine must not be operated if a function does not work as described later in this manual. (See chapter 2.5).

2.2 BECOME FAMILIAR WITH THE OPERATIONS OF THE MACHINE.

If you are unsure how to operate the machine properly, either use of or maintenance to your Tanco autowrap, please contact your Tanco autowrap dealer.

2.3 ADJUSTMENTS / MAINTENANCE.

Turn off the tractor and discharge the oil pressure before performing any adjustment or maintenance on the machine. Remember that a well maintained machine is a safe machine.

2.4 IMPORTANT!

ALWAYS MAKE SURE THAT NOBODY IS IN THE HAZARD AREA OF THE WRAPPING ARM WHEN THE MACHINE IS IN USE.

THE MACHINE MUST NEVER BE OPERATED BY PERSONS WHO DO NOT KNOW ENOUGH ABOUT HOW TO SAFELY OPERATE THE MACHINE, OR BY PERSONS UNDER 16 YEARS OF AGE.

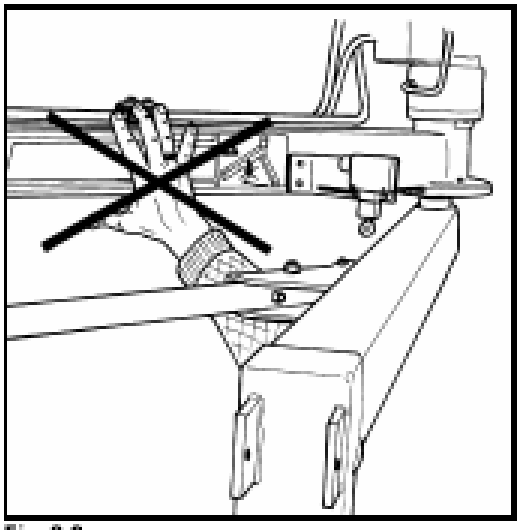


Fig. 2-2

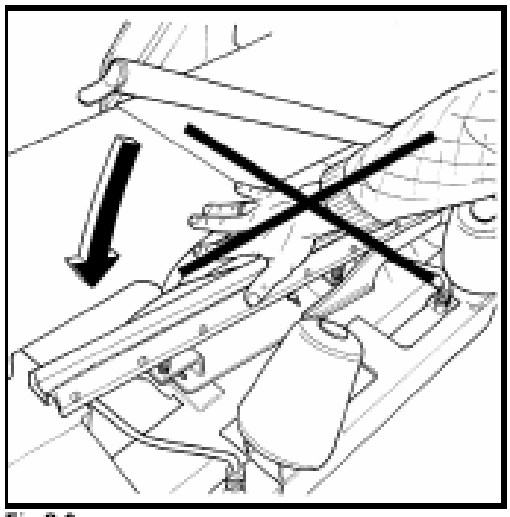


Fig.2-3

2.5 DANGEROUS AREAS.

Tanco Autowrap Ltd has given the safety to the operator the highest priority, but it is still impossible to secure oneself of every danger area on the machine. Therefore we will now go through some of the dangers that can occur when using the Tanco autowrap bale wrapper.

1. IMPACT OF THE WRAPPING ARM.

During the wrapping process the arm rotates with a speed of 20-27 revolutions per minute around the bale. On the arm is mounted a Film dispenser unit with a plastic roll. The speed on this can give a person serious injuries if one enters the working area of the wrapping arm. To reduce this danger we have mounted an emergency stop* device on the wrapping arm, this stops all movement when something comes in the way of it. **It is very important that this protection always works and that it should not under any circumstances be disconnected.**
(See more about the emergency stop* in chapter 5.0).

2. SQUEEZE-DANGER BETWEEN THE MAIN FRAME AND THE WRAPPING ARM.

As earlier explained, we have a wrapping arm with a Dispenser and a plastic roll. During every revolution the wrapping arm passes the main frame. Here there may occur a squeeze danger if a person stands to close to the main frame when the wrapping arm passes. The distance between the main frame and the wrapping arm is not large enough to give place for a person. Between the pre-stretcher and the bottom frame there can also be a squeeze danger.

3. SQUEEZE-DANGER BETWEEN THE STATIONARY AND WRAPPING ARM.

During the main wrapping process the wrapping arm moves around a stationary arm. Every time the wrapping arm passes the stationary arm, there is a squeeze danger that can be dangerous for the fingers. The distance between the stationary and the wrapping arm is between 25-40 mm. (See fig. 2-2).

4. SQUEEZE DANGER BETWEEN THE ROLLERS AND THE MAIN FRAME.

During the wrapping process the bale rotates on two rollers. When the rollers are in motion there is a danger of being squeezed.

5. SQUEEZE DANGER BETWEEN ROLLER ARMS AND MAIN FRAME, INWARDS.

When loading a new bale, the roller arms move towards the main frame, Beware of the danger. **Keep clear of this area**.

6. SQUEEZE DANGER BETWEEN ROLLER ARMS AND MAIN FRAME, OUTWARDS.

When loading or unloading a new bale, the roller arms move outwards. Beware of the danger. **Keep clear of this area**.

7. SQUEEZE DANGER CAUSED BY PLASTIC AUTOMATION.

At the end of the wrapping process the plastic is cut and held tight until the start of the next wrapping process. When the cutter arm moves down to lock the plastic, there can occur a squeeze danger between the cutter arm and the cutter holder. The cutter blade that cuts the plastic is very sharp, so keep hands away from the cutter. (See fig. 2-3).

2.6 LOCKING THE WRAPPING ARM.

When the machine is not in use, make sure the locking stay for the wrapping arm is secured, and that the locking bolt is fitted. If the locking stay is not secured, the wrapping arm and/or the machine could be damaged during transport.

2.7 THREE POINT MOUNTING.

When the machine is mounted on the three point linkage, make sure that the lifting arms are tightened up so there is no sideways movement.

2.8 FRONT MOUNTING.

If the machine is mounted on a front loader there must be a counterweight fitted to the three point linkage. It must be large enough to give the tractor good stability.

Connecting heavy working implements often has an overall negative effect on the tractor's driving and braking capacity.

2.9 TRANSPORTING.

When transporting on a public road there are certain safety measures that must be taken:

1. Make sure that the locking bolt on the wrapping arm is mounted. (Chapter 2.6).

2. Move the main rollers fully inwards.

3. Always transport the machine in the lowest possible position.

4. Make sure that the machine does not cover the tractors lights. If necessary, mount extra lights.

5. Make sure that at least 20% of the tractor's total weight is on the steering wheels.

6. If the machine is front-mounted, it's necessary to balance the weight with a counterweight mounted to the three-point linkage.

3.0 GENERAL INFORMATION ON BALE WRAPPING.

3.1 THE PRINCIPLE.

The advantages of round bale silage are many, and include fewer feed units, a flexible harvesting system, large capacity and the possibility of selling feed units.

In principle, the same fermentation processes occur whether the fodder is placed in a silo or pressed into bales and packed in plastic, i.e. lactic acid fermentation in anaerobic conditions. The oxygen in the bale must be exhausted before fermentation begins.

The grass should be dried to approximately 30-40% solid content. The solid content can be determined by twisting the grass by hand. If drops of liquid are forced out of the grass, the solid content is less than 25%. Low solid content, (wet grass), can lead to increased butyric acid fermentation if preservatives are not added to the grass. If the solid content is too high, (over 50%), normal fermentation will not take place and there will be enough oxygen in the bale to produce mould fungus.

3.2 THE BALER.

It is vital that the baler produces compact, well-formed bales, as misshapen bales can be difficult to wrap. Wrapping will also often take longer, thereby increasing the amount of plastic used.

3.3 DIFFICULT BALES.

When a misshapen bale is wrapped, it will have a tendency to move outwards or inwards on the roller. If the bale begins to move outwards, the machine must be lifted slightly at the rear edge to get the bale to rest against the support roller on the main frame. It can therefore be useful to use a hydraulic top link to make this adjustment easier. (See chapter 4.2).

If the support roller almost disappears into the bale the machine should be pressed down slightly at the rear edge in order to remove the bale from the machine. The plastic can be damaged when friction against the roller increases. Best results are achieved when the bale rolls easily against the support roller all the time.

If the bale to be wrapped is conical you must ensure that the sharp end is pointed at the tractor. It will then be easier to get the bale to lie correctly during packing. It is easy for such a bale to "turn" forward in the direction in which it is pointing, and therefore lie against the support rollers. If the bale is lying on a slope it must be picked up from the lower side. A hydraulic top link will again be advantageous.

3.4 TYPES OF PLASTIC.

A good type of plastic with good adhesive properties, and which is recommended for bale wrapping, must be used. The thickness of the plastic foil should be at least 25 µ. (25/1,000 mm). In order that the plastic tightens sufficiently around the bale, it is stretched before being wrapped, so it is somewhat thinner when it is put on the bale. With short-term storage, (up to eight weeks), it is recommended that bales have a minimum of four layers of plastic at the thinnest points, with at least 52-53% overlap.

For long-term storage, or when the grass is wet when it is wrapped, the bale should have 90-100 µ plastic, (6 layers), and the same amount of overlap. If thinner plastic is used, more layers should be applied. If it is very hot the plastic will be stretched further, and more layers should be applied. It is better to have slightly too much than too little plastic on the bale.

From experience, light plastic produces slightly lower temperatures within the bale, and tends to improve feed quality.

3.5 STORAGE LOCATION.

Care should be taken in finding a suitable location for the storage of bales. The storage location should preferably be prepared before the bales are laid out. An elevation close to well-drained roads is recommended. If the wrapped bales are simply placed on stubble there is a danger of the plastic being pierced. A tarpaulin or a thin layer of sand should therefore be laid where the bales are to be stored over the winter.

Bales should be stored in the shade as far as possible. This reduces the danger of air leakage in the bales. A bale which is stored in sunlight and which therefore undergoes greater swings in temperature "pumps in" a great deal of air in comparison to a bale stored in the shade. According to "Teknik for Lantbruket" [Technology for Agriculture] in Sweden, a bale stored in the shade has only 40% of the air leakage of a bale which is stored in sunlight.

3.6 STACKING / PROTECTION.

If bales are hard and well formed, they can be stacked vertically, but loose and misshapen bales with low solid content should not be stacked higher than one layer, as this could easily cause deformity and the danger of runoff will be increased.

Bales can also be stored on their sides. The layer of plastic is thicker here, providing greater protection against piercing.

Bales should be covered with a tarpaulin or a fine-mesh net to protect against birds and small rodents. If the plastic is pierced, it must be sealed with weatherproof, hard-wearing tape, preferably under the outermost layer of plastic. Ensure that the hole is adequately sealed.

3.7 The best wrapping results are obtained by...

...harvesting the grass early.

...drying it out to 30-40% solid content. If there is a danger of rain, bale and wrap the grass anyway.

...taking care not to mix any earth in with the grass.

...using a baler that produces even, firm bales.
Bales 1.2 m in width and with a diameter of 1.2-1.5 m are the preferred sizes.

...wrapping the bales soon after baling, never later than two hours afterwards.

...using a good plastic type and six layers of plastic. This removes the need to use preservatives.

...storing bales in the shade to reduce the danger of air leakage.

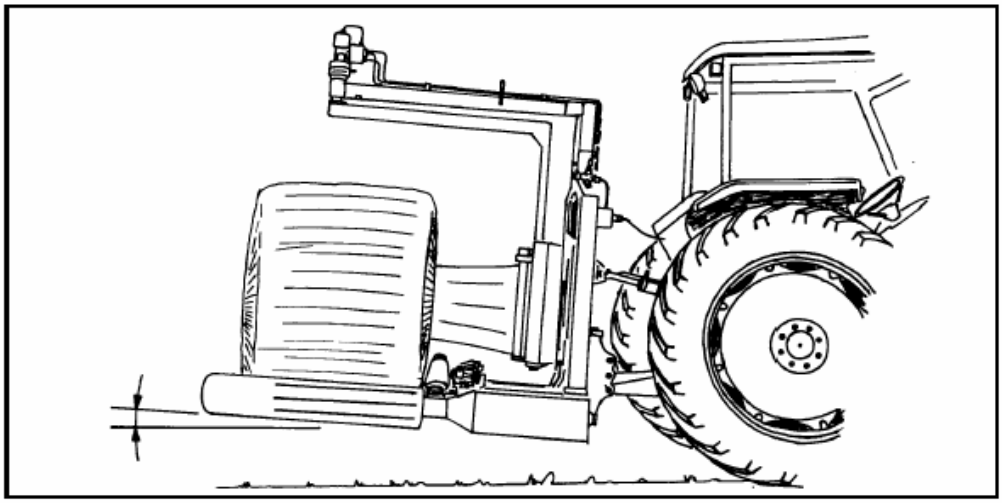


Fig. 4-1

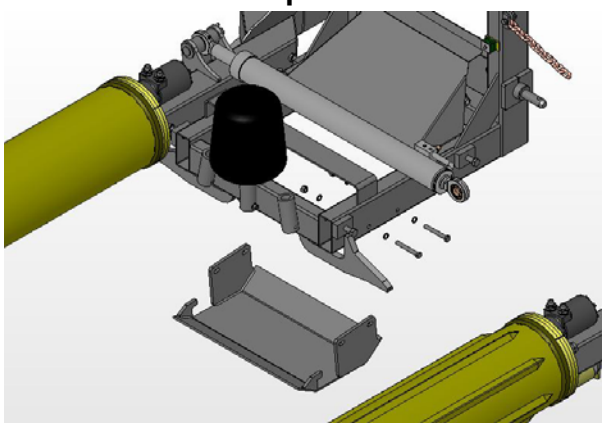
4.0 SETTING UP / MOUNTING OF THE MACHINE.

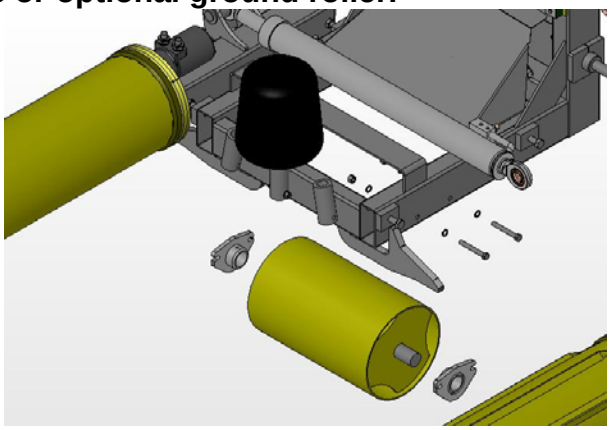
Be careful! There is a danger of being crushed when working implements are fitted and connected. Carry out the fitting procedures slowly and carefully, and use separate and approved lifting equipment to make the work easier. See section 2 on safety regulations and pay attention to the various safety decals displayed on different parts of the bale wrapper.

4.1 THREE POINT LINKAGE.

TANCO AUTOWRAP 1300 is intended for rear mounting to the three point linkage, category 2. When attached to three point linkage, make sure the machine is level across the tractor. Tighten up and lock the lifting arms so there is no sideways movement.

Attach Skid plate to base of chassis or optional ground roller.





4.2 TOP LINK.

Adjust the top link of the tractor so that the machine is level with the ground. It is recommended to use a hydraulic top link, as this makes it easy to adjust the angle of the machine.
During the wrapping process it is recommended to tilt the machine towards the tractor, as this will prevent the bale from falling off the rollers. (See fig. 4-1).

4.3 FRONT MOUNTING.

As extra equipment the machine can be equipped with attachment brackets for front loader or wheel loader.
(See spare parts list chapter 2-4 for what types of brackets there are).
You also need longer hydraulic hoses. (See spare parts list chapter 4-2 for more details).
When front-mounted there must be a large enough counterweight fitted to the three point linkage, this is to secure the tractors stability.

4.4 CONTROL BOX 1300

1300 EH Controller	1300 S controller –Wrap counter also operates Cut and tie.

4.5 ELECTRIC CONNECTION.

The electric supply for the machine's remote control and electro-hydraulic components must come **directly from the tractors' 12 volt battery.**

The electric wires from the battery must have an area measurement of min. 2,5 mm^2.
Connection to other contacts on the tractor can cause risk of malfunction, and is not recommended.

BROWN LEADER GOES TO BATTERY PLUS POLE
BLUE LEADER GOES TO BATTERY MINUS POLE

4.6 CONTROL BOX 1300 EH.

The control unit consists of the emergence stop button, a control cable, a fuse and a battery cable. The control unit should be attached to a suitable place in the tractor cab.
THE REMOTE CONTROL UNIT IS NOT SHOCK-PROOF. MAKE SURE THAT IT IS FASTENED TO A SOFT PAD THAT SECURES A NON-VIBRATING FOUNDATION.

4.7 HYDRAULIC CONNECTION.

The hydraulic hoses between machine and tractor are equipped with 1/2" ISO male quick-couplers. Discharge the oil pressure before you connect the oil hoses. Use the tractors' hydraulic lever.
To make sure that the bale wrapper works properly, the tractors' oil pressure has to be at least 180 bar. The oil flow should be 15 - 25 liters per minute.
The return pressure on the return must be as low as possible, and not exceed 10 bar. This should be measured with a gauge. It is recommended to use one single-working hydraulic outlet and arrange a free return circuit to the oil tank. If you are unsure of what oil pressure the tractor gives, or what oil pressure the bale wrapper receives, please contact your machinery dealer. Generally all tractors have got some counter-pressure in their hydraulic return systems. Some tractors have more than others.
Hose with red cap shall be connected to pressure, (P), and hose with blue cap to the return. (T).

4.8 OPEN and CLOSED CENTER and LS HYDRAULIC SYSTEM.

The 1300EH hydraulic system can be set up for tractors with open or closed center hydraulics

Open Centre Hydraulics

Most tractors have a hydraulic system that gives a continuous output which flows through the valve on the machine and back to tank when no function is operating. (Open center).

TANCO AUTOWRAP 1300EH is set-up for open centre on leaving the factory.

Close Centre Hydraulics

Some tractors, (like John Deere), have a hydraulic system that require the valve on the machine to allow no flow when no function is operating (Closed center). The hydraulic valve can easily be configured to operate in this way.

Simply push and twist the manual override on the master valve. (see fig 4.2)

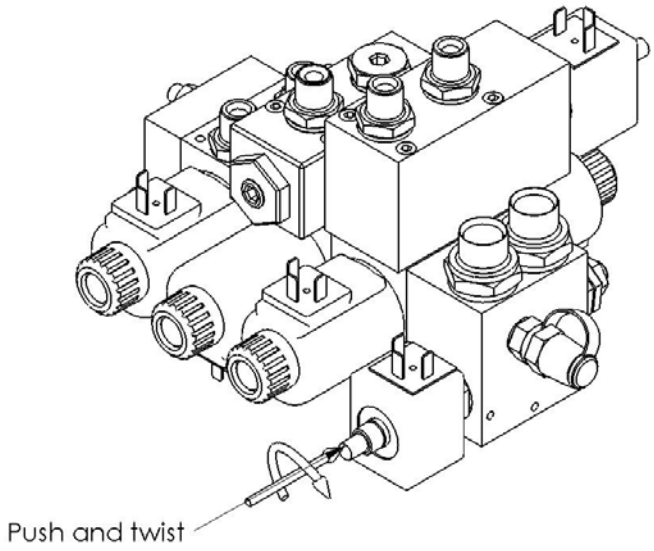


Fig. 4.2

LS Hydraulics

Many modern tractors have a "Load Sensing" (LS) hydraulic system. This is most efficient as the pump remains on standby, pumping no oil until it gets a signal from the machine. It is possible to run this machine on a load sensing tractor with the standard valve. Configure the valve for open centers and if possible adjust the flow from the tractor to give ~30 l/min. This however means that that tractor is constantly pumping and you do not get the benefit of the efficiency of your load-sensing pump.

Thus Tanco Autowrap strongly recommend that if you are running the machine on tractor with LS hydraulics you should fit the optional load-sensing block (see hydraulic circuit). With this block fitted a Load sensing signal is transmitted in the form of hydraulic pressure via a hose for the LS port on the LS entry block to the LS connection on the tractor.

Note that the LS entry block can be configured also to run on any other hydraulic system, open or closed center.

4.9 CHECK LIST.

Before using the machine it is recommended to follow this check list:

1. Make it a habit to discharge the oil-pressure before connection or disconnection of the hydraulic hoses. (By operating the hydraulic control lever inside the tractor). (Use the tractors hydraulic control lever).

2. Return-oil should be led directly to tank. Beware that if the counter pressure is too high, the security valve on the main block will release some oil. (See chapter 13).

3. Hose with **BLUE CAP = RETURN OIL.**

4. Hose with **RED CAP = PRESSURE.**

5. Tie up loose hoses and Connection Cables so that no squeeze damages occur.

6. Remove the locking bolt that holds the wrapping arm to the frame during transport.

7. Start the tractor and try out the functions. A bale is not required for this test.

8. Check all connections, hoses and couplings. If there is any oil-leakage, it should be rectified immediately.

If any problems should occur, it is most likely that the failure is in the quick-couplers on the tractors pressure and return-connections.

Make sure that both the male and the female-couplers opens properly for the oil flow. Check them carefully. The best thing to do is to exchange the quick-coupling on the return side and arrange a **"free return".**

Your TANCO AUTOWRAP bale wrapper has been tested in practical operation in approx. 2 hours at the factory.

5.0 EMERGENCY STOP*.

5.1 The machine is equipped with a safety guard on the wrapping arm, and its operation must be tested before work itself is started.

5.2 The emergency stop* is to prevent the wrapping arm from damaging people and objects, when the machine is started and during the wrapping process.

5.3 It consists of a releaser hoop that activates a small electric switch, which gives a signal to the control box to start the emergency stop.

5.4 When testing this function, start the wrapping arm. Hold out an arm or any obstacle. The wrapping arm shall now stop before it hits the arm. Great care must be taken when testing this function.

5.5 To restart the machine the obstacle must be removed and the arm must be returned to its original position. The switch on the control box (1300 M) must be turned back to the zero position. The wrapping may start again.

5.6 IMPORTANT: GIVEN THE VELOCITY AND MOMENTUM OF THE ARM IT IS IMPOSSIBLE TO STOP THE WRAP ARM IMMEDIATELY. THE EMERGENCY STOP ARM IS PROVIDED TO HELP REDUCE THE RISK OF SERIOUS INJURY AND GREAT CARE MUST BE TAKEN WHEN OPERATING THIS MACHINE.

6.0 MOUNTING OF PLASTIC FILM.

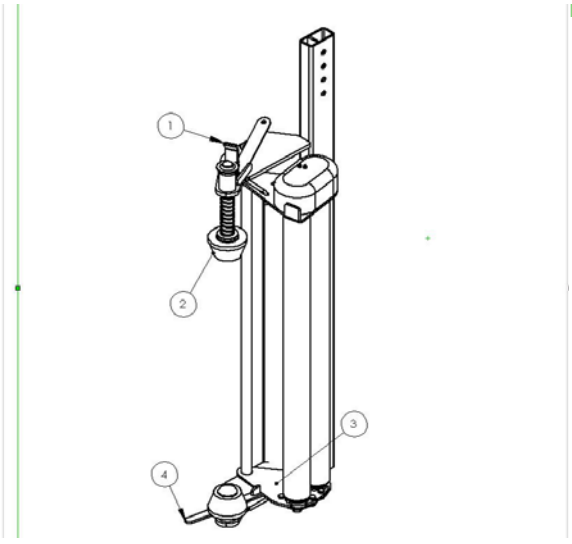


Fig.: 10-1

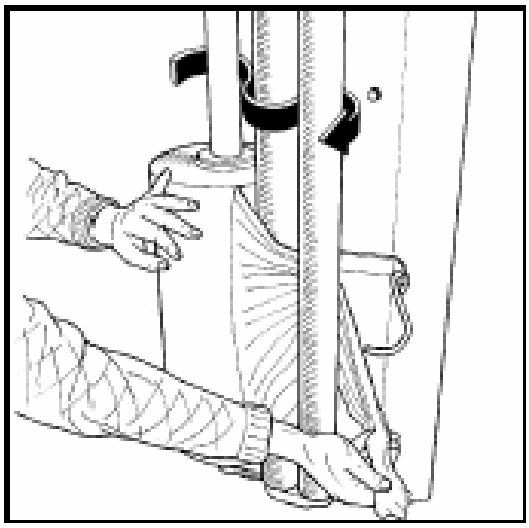


Fig.: 10-2

- When loading a plastic roll, first ensure the top cone (2) is pushed up to latched position, then push back the Stretch rollers (3) until held in position by locking catch (4). .
- Place the Roll on the Bottom Cone and release the top latch (1). Beware of Fingers!
- Pull the film between the rollers on the pre-stretcher in the direction of the arrow. (See fig. 5-2). (See also the sticker on the dispenser).
- Release the locking catch and allow the rollers to lie against the roll of film. Pull the film from the roll and tie it to the bale.

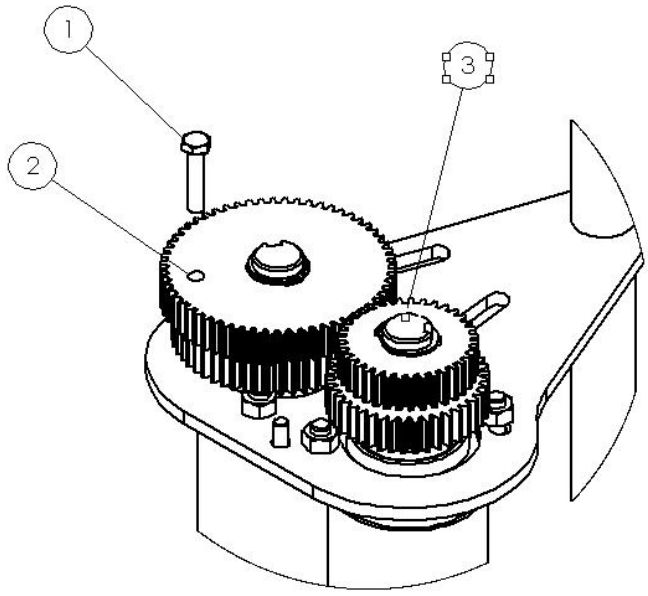
6.1 The standard film dispenser is designed for 750mm film. If using 500 mm film an adaptor is required which must be ordered separately. See parts book and contact your dealer.

6.2 Height adjustment of pre-stretcher / plastic film.
The plastic film should hit at the middle of the bale wrapped, and therefore it can be necessary to adjust the height of the pre-stretcher.

6.3 Tanco Dual Stretch Dispenser

Some Tanco Autowrap machines can optionally be fitted with a patented dual stretch gear system.

This system enables a quick change of stretch levels on the Film Dispenser.



If the bolt (1) is fitted in position 2, the top set of gears provide the stretch (70%).

By removing the bolt from position 2 and fitting it in position 3, the bottom set of gears become the stretch gears giving 32% (for prestretched film) or optionally 55% (for use in hotter climates or with square bales).

Tanco Dispenser Gear Combinations

Inner Gear	Outer Gear	% Stretch
60 Tooth	35 Tooth	70%
58 Tooth	37 Tooth	55%
54 Tooth	41Tooth	32%

7.0 EH Controller Manual

Contents

1. INTRODUCTION

1.1 IMPORTANT SAFETY INFORMATION!

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2.3 Manual options in Automatic mode

2.4 Operations in Manual mode

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2.6 Selecting a Store Total

2.7 Resetting a Store Total to Zero

2.8 Setting the Number of Wraps

2.9 Film Break Alarm (Optional)

3 OPERATOR SETUP MENU

1. Introduction

The Tanco Autowrap Bale Wrap Controller enables the operator to monitor and control the operation of the bale wrapper at any stage of the wrapping cycle. The controller is designed for models : 1300EH, 1510EH, 1510T, 1514S, and 1514T rotating-arm type wrappers.

There are 2 operating modes – Automatic and Manual. The automatic mode permits 'one-touch wrapping' to ease the workload on the operator. The controller is fully programmable to optimise wrapping performance. Bale counts are automatically logged in any one of 10 selectable memory stores, in addition to a grand total memory store.

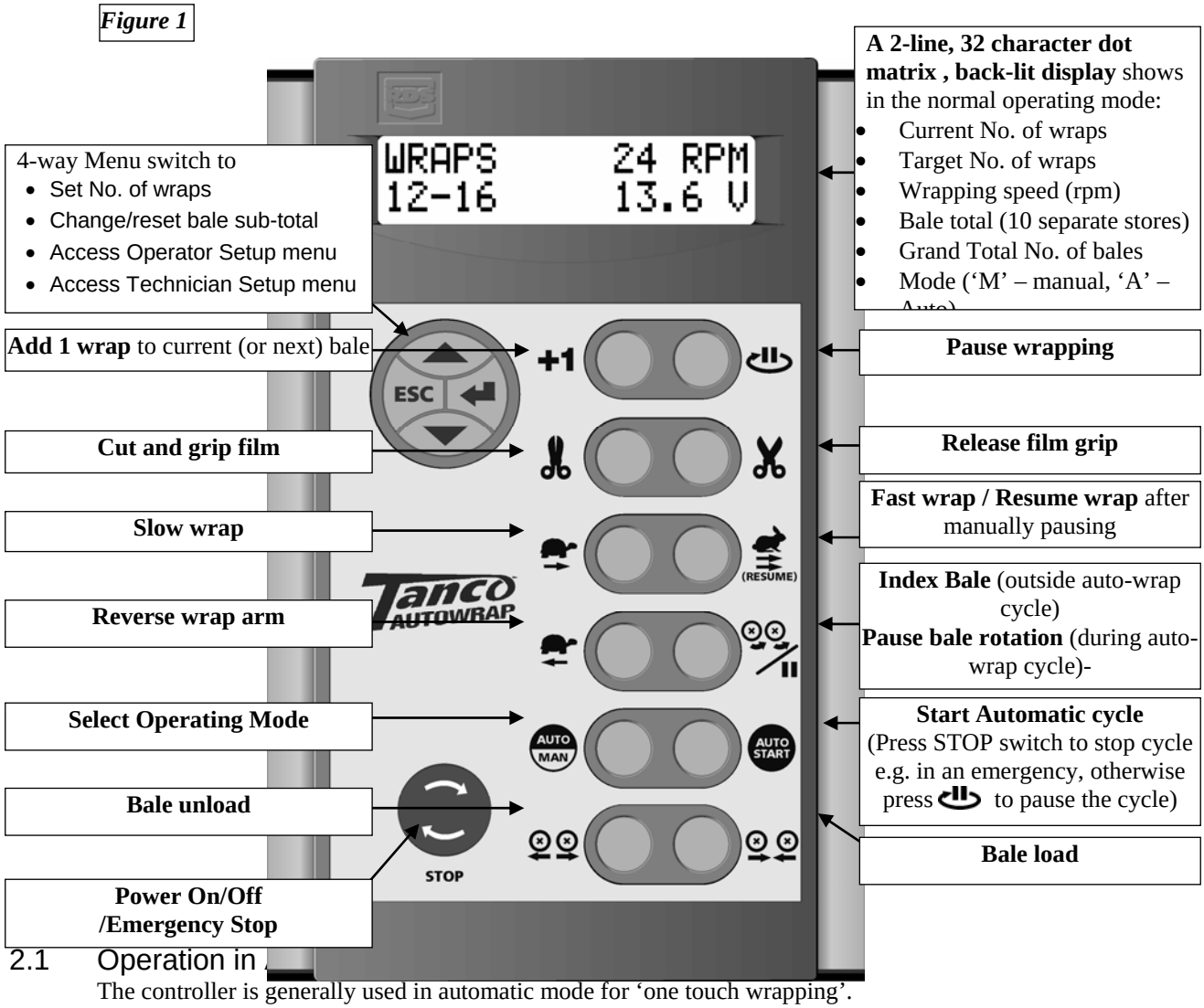
1.1 IMPORTANT SAFETY INFORMATION!

- Please read and understand the instructions for using this controller before operating the machine.
- This controller is fitted with a pushbutton type On/Off Emergency Stop switch. Always ensure the controller is switched OFF via this switch before attempting any adjustment or maintenance to the machine.
- Please follow ALL other safety instructions given in the manufacturers' Operator Handbook for this machine.

1.2 Main operating Functions and Display

The principal instrument features and operating functions are shown in figure 1 below.

Figure 1


A 2-line, 32 character dot matrix , back-lit display shows in the normal operating mode:
Current No. of wraps
Target No. of wraps
Wrapping speed (rpm)
Bale total (10 separate stores)
Grand Total No. of bales
Mode ('M' – manual, 'A' – Auto)
4-way Menu switch to
Set No. of wraps
Change/reset bale sub-total
Access Operator Setup menu
Access Technician Setup menu
WRAPS 24 RPM
12-16 13.6 V
Add 1 wrap to current (or next) bale
+1
Pause wrapping
ESC
Cut and grip film
Release film grip
Slow wrap
Fast wrap / Resume wrap after manually pausing
(RESUME)
Reverse wrap arm
Index Bale (outside auto-wrap cycle)
Pause bale rotation (during auto-wrap cycle)-
Select Operating Mode
AUTO MAN
AUTO START
Start Automatic cycle (Press STOP switch to stop cycle e.g. in an emergency, otherwise press to pause the cycle)
Bale unload
STOP
Bale load
Power On/Off /Emergency Stop

2.1 Operation in A

The controller is generally used in automatic mode for 'one touch wrapping'.

1. '**A**' on the display indicates that the controller is set in Automatic mode. If not, press AUTO MAN to select.

2. With the rollers in the open position (step 4), bring the machine up to the bale.

2. Press the switch* to move the rollers to the closed position.

3. Press the switch to commence the automatic wrapping cycle. The cycle is completed when the target number of wraps has been reached.

4. Press the switch* to move the rollers to the open position to unload the bale.

***** The controller must be configured in the Operator Setup menu (section 3) so that this is a 'one touch' function in automatic mode. Otherwise you must hold the switch for the required duration (as remains the case in manual mode).

2.2 Manually interrupting an automatic wrapping cycle

Press the switch to bring the wrapper to a controlled stop. Pressing the switch will continue the auto-wrap cycle from where it stopped.

For safety reasons, if it is necessary to work on the machine (e.g. in the event of a film break or the film running out), then it is strongly recommended that you then switch the controller off via the red stop button and disengage the machine power source. Pressing the switch after switching the controller back on will resume the auto-wrap cycle from where it stopped.

Unless it is an emergency situation, do not bring the machine to a stop by pressing the red stop button as this will impose unnecessary strain on the machine.

2.3 Manual options in Automatic mode

With the controller in automatic mode, the following manual functions are possible.

SLOW WRAP (not during the wrapping sequence). Press to resume the normal fast wrap.

REVERSE WRAP ARM (only enabled outside of the wrapping sequence). Press this button to nudge the wrap arm backwards to the desired position.

PAUSE BALE ROTATION (function active during auto-wrap cycle). Hold this button to add more film to a particular part of the bale. Release the button when sufficient additional film has been applied.

BALE INDEXING (function active outside auto-wrap cycle). Press and hold this button to index the bale. Release the button when the bale is at the desired position.

NOTE: The controller can be configured from the 'Operator Setup' menu (section 3) so that this is a 'one-touch' function and the bale will then index for the preset period (e.g. to allow a ¼ turn).

ADD 1 WRAP Each time you press this button an additional wrap will be put on the current bale if the wrapping sequence is in progress, or onto the next bale if the automatic cycle has not yet been started. You can add as many wraps as required.

2.4 Operation in Manual mode

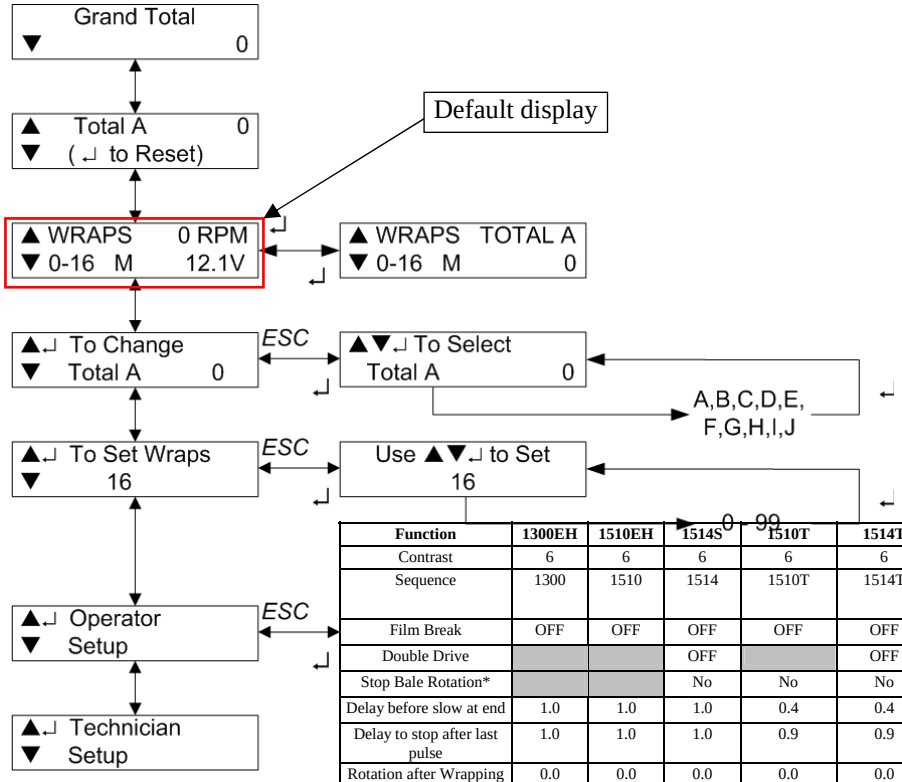
'**M**' on the display indicates that the controller is set in manual mode. If not, press to select.

In manual mode you have total control of every stage of the wrapping cycle.

The software logic determines which manual functions can be activated at any point in the wrapping cycle. Should the operator incorrectly select a function at a certain stage during the wrapping cycle, then that operation will not be performed.

2.5 The Display Menu

The Display menu is divided into 3 sections. At the top level are the settings used during the daily work with the machine – i.e. Store totals and No. of Wraps.
The Operator Setup' section enables the operator to perform adjustments to the machine operation – e.g. time duration and time delay settings during the automatic cycle.
The 'Technician Setup' menu is not normally accessible to the operator without a PIN access code. 'Technician Setup' is not covered by this manual.
Use the 4-way switch to navigate the menu. Each menu screen indicates which keys to press to make the settings. The instrument will default back to the main operating display after 30 seconds if no other key is pressed
Here is a summary of the display menu;

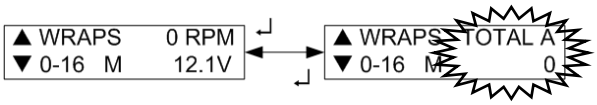


Function	1300EH	1510EH	1514S	1510T	1514T	Range	Res.
Contrast	6	6	6	6	6	0-12	1
Sequence	1300	1510	1514	1510T	1514T		
Film Break	OFF	OFF	OFF	OFF	OFF	ON/OFF	
Double Drive			OFF		OFF	ON/OFF	
Stop Bale Rotation*			No	No	No	Yes/No	
Delay before slow at end	1.0	1.0	1.0	0.4	0.4	0-9.9	0.1
Delay to stop after last pulse	1.0	1.0	1.0	0.9	0.9	0-9.9	0.1
Rotation after Wrapping	0.0	0.0	0.0	0.0	0.0	0-9.9	0.1
Manual Rollers In Hold On Duration	0.0	0.0	0.0	0.0	0.0	0-9.9	0.1
Manual Rollers Out Hold On Duration	0.0	0.0	0.0	0.0	0.0	0-9.9	0.1
Manual Index Bale Hold On Duration	0.0	0.0	0.0	0.0	0.0	0-9.9	0.1
Language	English	English	English	English	English	E/F/D/NL/ DK	

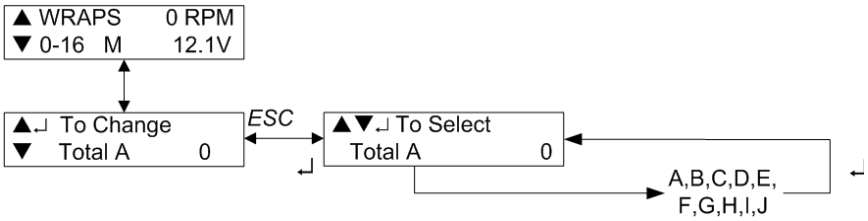
NOTE: There are additional sequences selectable in the Operator Setup menu but not shown in the table. These sequences are for wrapper models to which this manual does not apply.
Please refer to section 3 for further explanation of the Operator Setup functions given in the table above

2.6 Selecting a Store Total

There are 10 individual memory registers labelled 'Store A' to 'Store J' for bale totals. Each time a bale cycle is completed, the currently selected store total and the grand total increments by 1.
The currently selected store is displayed on one of the two screens selectable in the normal operating mode.



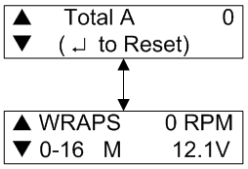
The default setting is Store A. To select a particular store, navigate the display menu using the 4-way switch.



Press the up/down arrow keys to select the store, then press the ENTER key to confirm the selection.

2.7 Resetting a Store Total to Zero

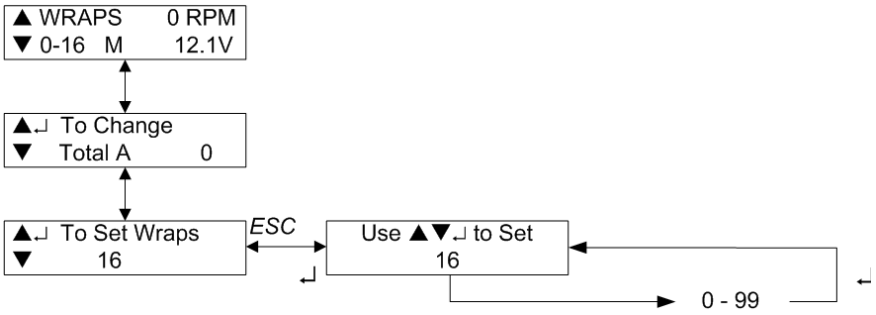
Stores A to J can be individually reset to zero at any time. The Grand Total store cannot be reset. First select the store to be zeroed, then navigate the display menu as shown below.



Press the ENTER key to reset.

2.8 Setting the Number of Wraps

The default number of wraps is 16. You can set the target number from 0 to 99 by navigating the display menu as shown below.



3 Operator Setup Menu

The default settings for the machine are developed by Tanco for optimal operation of the machine. However, the operator can change certain parameters in the 'Operator Setup' menu to take account of operational conditions.

Parameter	Default	Application	Description
'Film Break'	OFF	N/A	N/A
'Double Drive'	OFF	1514S, 1514T only	Set 'ON' to enable both pairs of rollers to be driven.
'Stop Bale Rotation'	No	1510S, 1514S, 1514T only	Set 'Yes' to delay bale rotation for a preset time period after the wrap cycle begins. This enables additional wraps of film to be applied for extra strength e.g. when wrapping two bales together.
'Delay to Slow'	1.0s 0.4s	1300EH, 1510S, 1514 1510T, 1514T	Determines the point of speed reduction at the end of the wrapping cycle
'Delay to Stop	1.0s 0.9s	1300EH, 1510S, 1514 1510T, 1514T	Set to adjust the Stop position of the wrap arm
'Rotation After'	0.0s	All	Set time period to rotate the bale to an optimal orientation for unloading
'IN Hold Time'	0.0s	All	Sets the latch-on time period for closing the bale rollers. Effectively allows 'one touch' operation instead of having to hold the switch in Automatic mode. Does not apply when in Manual mode
'OUT Hold Time'	0.0s	All	Sets the latch-on time period for opening the bale rollers. Effectively allows 'one touch' operation instead of having to hold the switch in Automatic mode. Does not apply when in Manual mode
'Bale Hold ON'	0.0s	All	Sets the latch on time period for indexing a bale. Effectively allows 'one touch' operation instead of having to hold the switch in Automatic mode (e.g. to index a ¼ turn).
Language	English	All	Sets the language for the display prompts.

8.0 SPEED-SETTING OF THE WRAPPING ARM.

8.1 Start the tractor and let it run at approx. 1000 revolutions per minute. Lift the machine clear of the ground. The oil flow to the wrap arm and lower Rollers is adjusted by two wheels which are situated at the front of the machines adjustment valve block. (See Fig. 9-2)

8.2 The Wheel (See Fig. 9-2) to the right is used to adjust speed of the wrapping arm.

8.3 Adjust the wrapping arm speed to approx. 22 revolutions per minute. (Just below three seconds per revolution.) The adjustment is carried out by turning the wheel on the control valve. Turning **clockwise INCREASES** the speed and turning **counterclockwise REDUCES** the speed.
It is recommended not to wrap with speeds higher than 22 revolutions per minute, because then the plastic film will "catch" more air, and this air do may not be able to evacuate from the bale. The result is bad fodder.

NOTE: Max. allowed wrapping arm speed is 27 revolutions per minute.

REMEMBER!

Increased speed of tractor engine does not increase the wrapping speed, it only increases the oil flow into the system, this may increase the temperature in the hydraulic system.

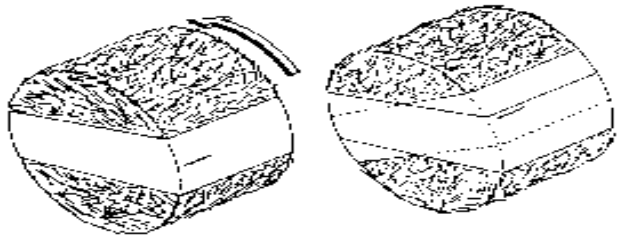


Fig. 9-1

9.0 ADJUSTING THE OVERLAP.

9.1 WRAPPING ARM SPEED.

Load a bale on to the machine. To be able to adjust correct overlap, you have to leave the tractor cab while wrapping. Check that the wrapping arm has a speed of approx. 22 revolutions per minute. If not, adjust this by turning the control valve for wrapping arm speed. (See Fig. 9.2). When the wrapping arm speed is OK, you can set the overlap.

9.2 OVERLAPPING.

Use a black marker to mark a line on the middle of the film wrapped on the bale (See Fig. 9-1). Adjust the control wheel (See Fig. 9-2) for roller speed, so that the marker line is just covered. Approx. 52-53% is the ideal overlap.

This adjustment can be kept as long as you wrap bales with approx. same diameter. When changing bale size, control the overlap.

Fast Speed Valve (Valve No.6, See section 13)

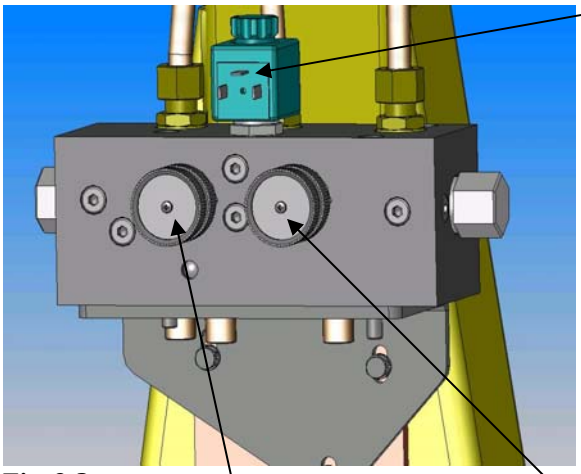


Fig. 9-2

Roller Speed Adjustment Valve

Wrapping arm Speed Adjustment Valve

10.0 OPERATING INSTRUCTIONS.

We shall now go through a complete wrapping process, from loading to storage place, and explain the practical use of Tanco autowrap 1300.

10.1 Fitting roll of film.

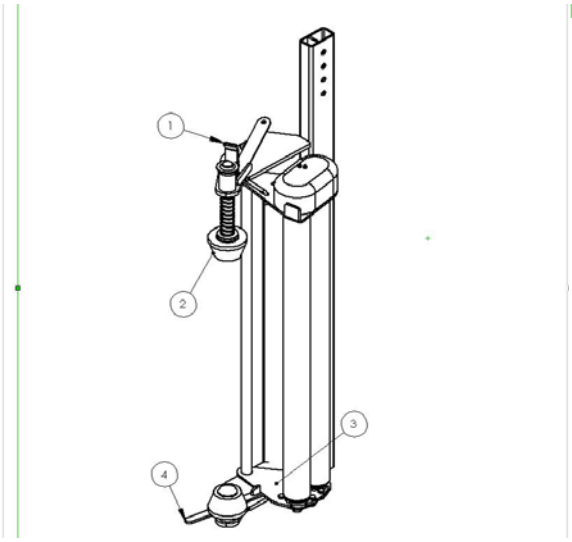


Fig.: 10-1

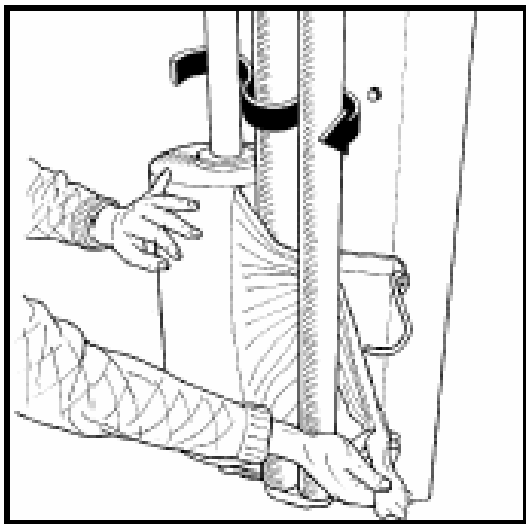


Fig.: 10-2

- When loading a plastic roll, first ensure the top cone (2) is pushed up to latched position, then push back the Stretch rollers (3) until held in position by locking catch (4). .
- Place the Roll on the Bottom Cone and release the top latch (1).
- Pull the film between the rollers on the pre-stretcher in the direction of the arrow. (See fig. 5-2). (See also the sticker on the dispenser).
- Release the locking catch and allow the rollers to lie against the roll of film. Pull the film from the roll and tie it to the bale.

10.2 LOADING.

Pick a bale to wrap. Increase the opening between the rollers as much as possible. Lower the machine almost to the ground. **Do not lower the machine all the way down to the ground.** Drive in under the bale. Close the rollers until they begin to lift the bale. Lift the machine and the bale approx. 10-15 cm, above the ground. Close the rollers completely. **The rollers must not under any circumstances hit the ground while closing.** The reason why the rollers shall not hit the ground is that this will increase the wearing on the gears and the bearings of the rollers.

10.3 HEIGHT ADJUSTMENT OF TOWER / PRE-STRETCHER.

The pre-stretcher has to be adjusted so that the plastic film is always hitting the middle of the bale.

10.4 START.

Remember that the plastic film end has to be locked in the Cutter/Film holder before starting the wrapping. When the plastic film end is in the holder, use the switch to start the wrapping arm. When the wrapping arm has done a couple of revolutions, lift the cutter-arm just enough to release the film end. If the cutter is raised to high it may damage the plastic film.

10.5 OVERLAP.

Ensure that the overlap is correct. If not, see chapter 10.

10.6 HOW MANY LAYERS OF PLASTIC FILM?

When the bale is completely covered with film, read the counter that displays the number of revolutions done by the wrapping arm. This number has to be multiplied by 2 or 3, depending on how many layers of film you want to have.

* **4 layers - multiply by 2.**
* **6 layers - multiply by 3.**

As long as you wrap bales with the same diameter, you can stop at the same number every time.

10.7 STOP.

One round before the required number of revolutions is obtained, the speed of the wrapping arm is reduced, the wrapping arm is stopped when the plastic film is against the cutter. The wrapping arm is now in the right position for the next wrapping cycle. The cutter closes and the film is held tight in the Cutter/Holder and perforated. The bale is now completely wrapped and ready for stacking.

10.8 STORAGE PLACE.

At the storage place the bales should be placed systematically. Start at the right-hand side, and stack to the left. The machine is lowered, but not all the way down to the ground. **The rollers must not hit the ground.** Push the lever control for "rollers out" and the bale will rest on the ground. Drive the tractor carefully away from the bale. Try to avoid touching the bale with the rollers. The plastic film will now tear off by the perforation at the cutter. Place the next bale to the left of the first one so that the loose film end on the last bale will be locked. Then you do not have to leave the tractor cab to fasten the loose film end. To be sure we recommend that you check that the film ends are securely fastened, and eventually fasten them a little bit better when you have stacked the bales.

If the machine is front mounted, the bales can be staked upon each other. (See more in chapter 3.0).

11.0 PERIODIC MAINTENANCE.

11.1 BEARINGS.

All ball-bearings are packed with grease, and do not need any more maintenance.

11.2 PRE-STRETCHER.

If the machine is in daily use, the Gears under the plastic cover on the dispenser should be greased when needed.

11.3 CUTTER / FILM HOLDER.

The cutter / film holder is pre-adjusted from the factory and does not need further adjustments. When replacing spare parts, it is necessary to adjust it. The springs for the U-shaped slot shall be adjusted so that they are almost completely squeezed together when the cutter-arm is all down.

11.4 CLEANING.

The machine should be cleaned and oiled regularly and at the end of the wrapping season.

NOTE !

When using high pressure washing apparatus, care must be taken with the electrical installation.
Also make sure that water is not sprayed directly into the bearings, etc..
Keep the control box protected from rain and water. If necessary use compressed air to dry electrical components.

11.5 HYDRAULIC CYLINDERS.

Make sure that all hydraulic cylinders are closed when storing the machine.

11.6 QUICK COUPLERS.

Ensure that the quick couplers are kept clean and apply the dust caps after use.

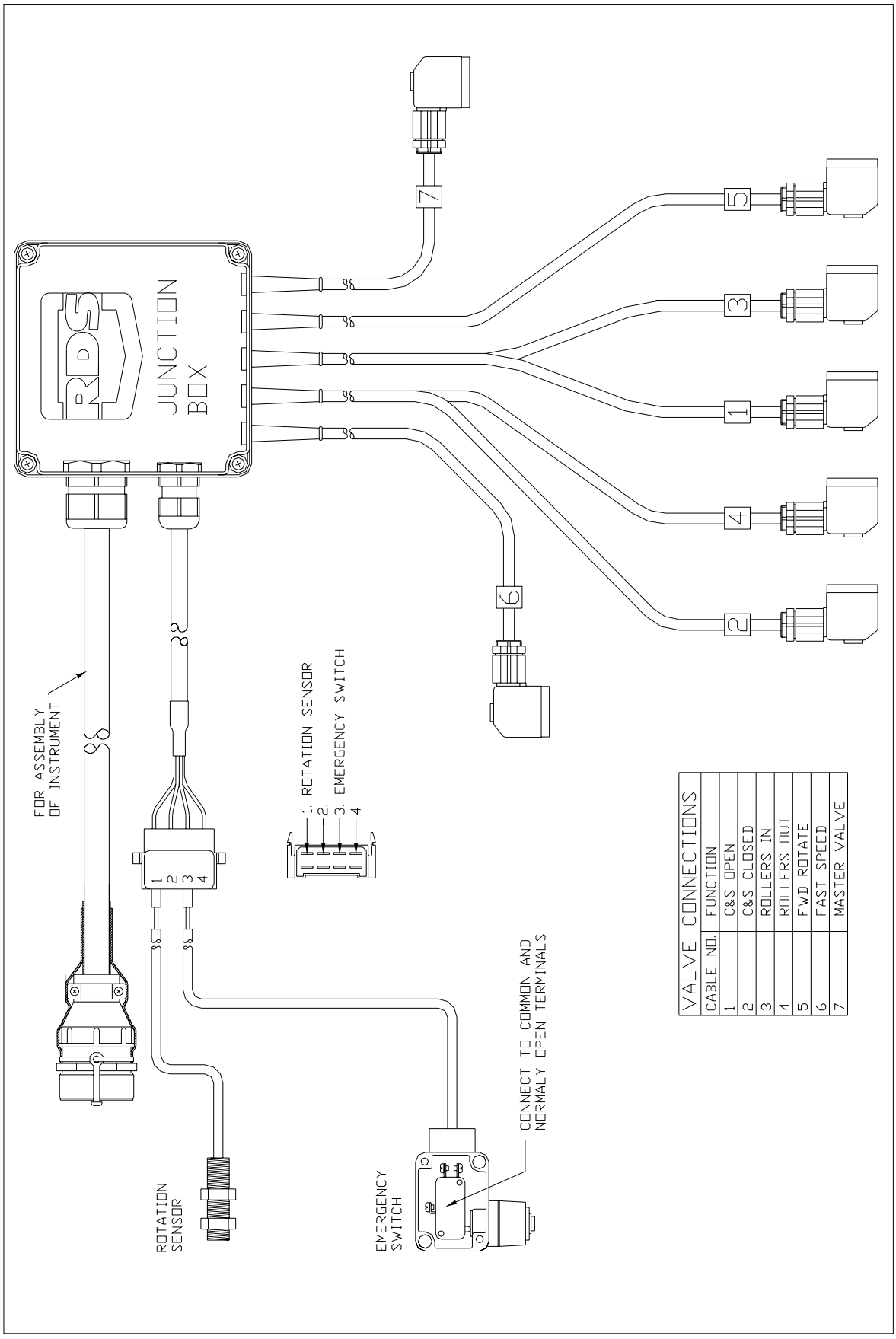
11.7 STORAGE.

The machine should be parked on a dry place during the closed season.

11.8 OIL FILTER.

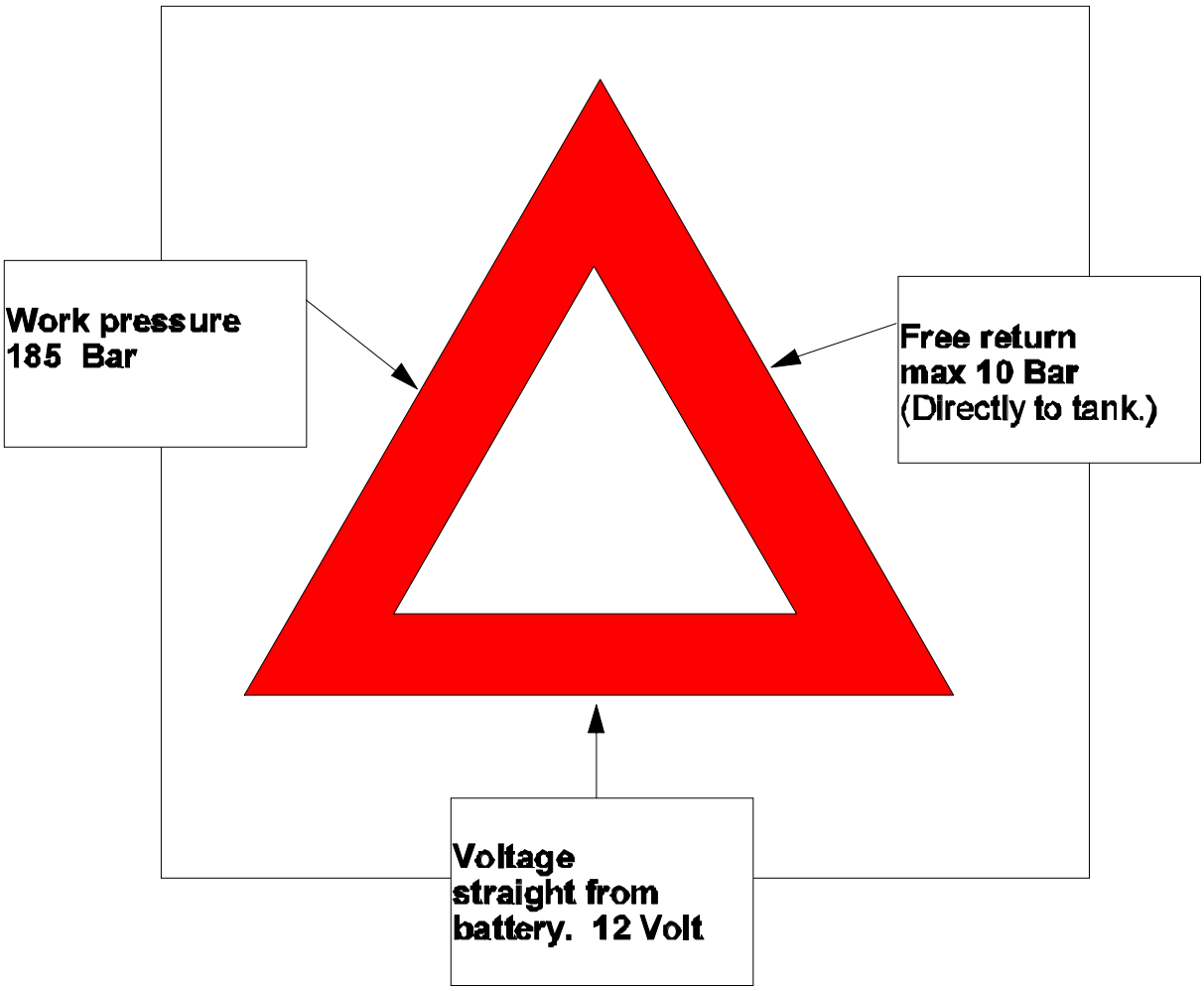
The oil filter must be changed once a year.

12.0 ELECTRIC CIRCUIT DIAGRAM 1300



There are 3 basics, which must **ALWAYS** be followed if the machine is to function correctly

NOTE !



13.0 DESCRIPTION OF HYDRAULICS.

TANCO AUTOWRAP 1300 is driven from the hydraulic system of the tractor. The hydraulics of the machine can easily be changed from "Open Center" to "Closed Center" hydraulic system.

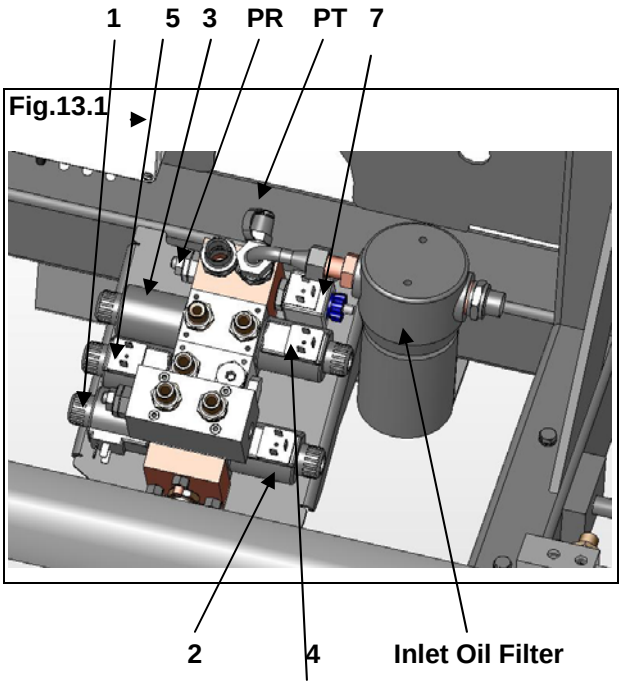


Fig.13.1

NUMERICAL ORDER OF THE SOLENOID VALVES
The numbers of the solenoid valves are identical with the corresponding numbers on the electric leaders.

Valve for CUTTER	= Valve no. 1 - 2
Valve for ROLLERS IN / OUT	= Valve no. 3 - 4
Valve for wrapping arm, speed	= Valve no. 5
Valve for wrapping arm, full speed	= Valve no. 6 (Fig. 9-2)
Master valve	= Valve no. 7

PR = Pressure relief valve set to 185 bar
PT = Pressure test point

13.1 "OPEN CENTER" HYDRAULICS.

Most tractors have an "Open Centre" Hydraulic System which delivers a continuous oil supply. The 1300EH machine is set as standard to suit this. If no other function is activated, the oil flows from the tractor, through the main valve block and back to the tank. When a function is operated, **THE MASTER VALVE (7)** , closes the oil flow circuit to the return, and simultaneously the valve for the current function is opening.

"CLOSED CENTER" HYDRAULICS
For tractors with a "Closed Centre" hydraulic system, like John Deere the oil flow through the valve is closed when no function operating, the tractor maintains a standby pressure with no oil flow. When a function is operated oil is directed to that function.

Some changes must be made to the 1300EH hydraulic system to operate on a tractor Closed Centre Hydraulics.(See section 4.8).

13.2 THE CUTTER.

To prevent the oil pressure to the cutter from falling, so that it holds the film long enough, there is a piloted non-return valve underneath the solenoid valve on the main block.
Inside the block, there is also a non-return valve that prevents the oil leaking back through the valve however sudden pressure impulses in the return system can open the piloted non-return valve.

13.3 The hydraulic system is equipped with a safety valve, which is preset to 185 bar. It opens for the oil circuit to tank if max. pressure is exceeded. This valve is attached to the main valve block.

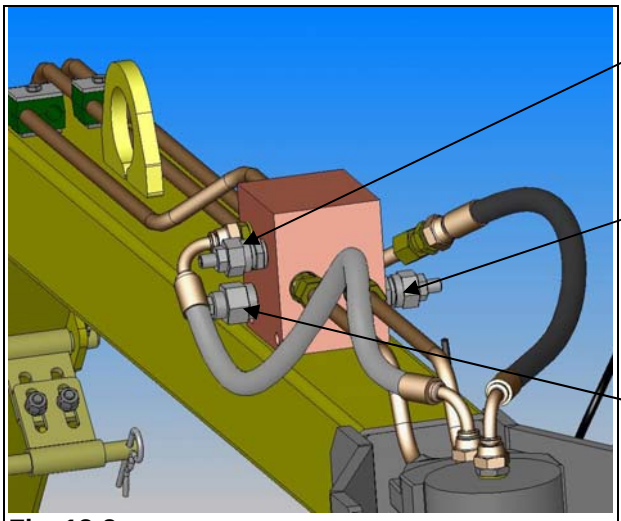

S4 (VMP) Limits wraparm torque.
S3 (VMT) Ensures gradual stop of wraparm.
S1 (VBS) Ensures smooth running of wraparm in hilly conditions.

Fig. 13-2

OTHER VALVES

"Closed / Open center" plug	= Valve V6-V7
Safety limit valve	= Valve S1, gate
Power limit valve for wrapping arm	= Valve S3
Stop limit valve for wrapping arm	= Valve S4
Regulating valve	= gate

13.4 WRAPPING ARM VALVE BLOCK.

The wrapping arm valve block is attached to the wrapping arm motor, and includes 4 valves.
These valves have carefully set in the factory and should not be tampered with.
When the wrapping arm starts, the oil pressure also goes to the brake so it is released. But we want a little delay here to prevent a too hard stop when the brake goes on. This is obtained by the mounting of a nozzle inside the fitting to the brake.

a) Non return valve.
It shall prevent the oil going back to the control valve for wrapping arm speed. It is placed inside the block, and can only be reached by removing the whole block from the motor.

b) Safety valve on the plus side. (S3, fig.13-2).
This valve shall provide a gradual stop of the wrapping arm and prevent accumulation of pressure on the motor's outlet side when the arm stops. The valve lets the oil flow from the outlet side of the motor to the input side.

c) Safety valve on the minus side. (S4, fig.13-2).
This valve limits the max. torque of the wrapping arm. The valve lets the additional oil over to the motors' outlet side. It is adjusted so that the pull force on the far end of the arm is approx. 35 KG.

d) Holding valve. (S 1, fig. 13-2)
This valve regulates the oil flow on the outlet side to be able to hold a constant input pressure to the wrapping arm motor. This makes the motor go smooth, and the brake is not activated even if the wrapping arm rotates easy "downwards". (If the machine is in an angle while wrapping).

IMPORTANT: All these valves have been carefully set in the factory. Incorrect adjustment of these may cause damage to the machine. Always ensure that trained personnel only adjust the settings of these valves.

14.0 CHECK POINTS BEFORE TROUBLE SHOOTING.

In this chapter we have some general check points that have to be examined first if something is wrong with the machine. In chapter 17.0 we have a more detailed trouble shooting.
There are three basic assumptions that have to be fulfilled if the machine shall function properly:

1. The oil pressure from tractor should be 180 bar.
2. The return flow of oil has to be as free as possible, **max. 10 bar counter pressure**.
3. Enough electric power to all functions.

14.1 OIL PRESSURE.

In order to check that the oil pressure into the machine is high enough, a guage may be applied to the oil pressure hose, for example on the quick coupler.
If the pressure is less than 180 bar, there will be less power for the functions. The first place you trace this is at the ROLLERS OUT / IN.

OIL AMOUNT.
The oil amount that the tractor delivers must be **minimum 15 liters/minute,** but it is recommended that it is 25 liters/minute. (Max. allowed oil amount is 40 liters/minute).
REMEMBER! Large oil amount = Valves get hot. (Small oiltank = insufficient cooling).

14.2 RETURN PRESSURE.

The return pressure can be too high. With high return pressure the machine's functions will get less power. High return pressure means also that you need more power to operate the valves.
MAX. ALLOWED RETURN PRESSURE IS 10 BAR.
We recommend "free return" directly to the tank.

14.3 ELECTRIC POWER.

It is important to check that all functions receive enough electric power.
If not, some, or all functions may fail.

Is the battery voltage high enough?
If the voltage falls below 9 volts the valves will not be able to open.

Are the cables correctly connected to the battery?
Follow directions in chapter 4.4

Is the connection between battery cable and control unit OK?
Clean off the poles and check the plug.

Is the connection between remote control unit and machine OK?
Change contacts if any doubt about the condition.

Is the fuse on the battery cable OK?

PLEASE CONTACT YOUR DEALER IF YOU ARE IN DOUBT ABOUT ANYTHING.
(Remember always to give your dealer the serial number and production year of your machine when contacting dealer and when ordering spare parts).

15.0 PROCEDURE OF TROUBLE SHOOTING.

15.1 SOLENOID VALVES.

When checking if the Solenoid valves are receiving electric power, you do this in the following way:

1. Unscrew the nut that holds the solenoid.
2. The solenoid is easy to move without electric power.
3. Push the current function on the remote control. If the solenoid gets power, it will be difficult to move, it "sticks". This is the best and easiest way to check if the solenoid valve is receiving electric power. Another way is to hold a screwdriver up to the magnet. If it "sticks", the solenoid is receiving electric power.

The power supply to the valve can also be measured with a voltmeter, but then the contact must be connected to the solenoid, so it is using power.
To have reliable functions, the voltage should not be lower than 11,5 volts, even if the solenoid valve usually works with a little lower voltage.

15.2 Only for solenoid valves to the main functions.

If the electric supply is in order and one of the functions fails, the reason can be dirt that tightens or prevents the sliding shaft (spool) from moving.
Try to maneuver the function manually, by pressing the point of a screwdriver into the end of the valve housing. **At the same time the corresponding switch on the control unit has to be operated to get electric power to the master valve.** If the function is working again after this, the dirt may have been pushed out in the oil system and the machine can be operated normally again.

Take care so that the machines moving parts, do not cause damage to persons or objects.

16.0 TROUBLE SHOOTING.

16.1 THE MACHINE DOES NOT FUNCTION.

a) Even if the gauge shows enough pressure and there is no reaction in the machine. The reason could be that one, (or both), of the quick-couplers does not open for the oil.
Change quick couplers.

b) The counter pressure could be too high.
Max. allowed counter pressure is 10 bar. (See chapter 14).

c) Make sure that the open / closed valve is correctly positioned.

(Disturbances of this type, a, b or c, are most likely in the first days that the machine is in use).

16.3 THE CUTTER WILL NOT HOLD THE FILM.

The pressure is falling and the springs start to lift the cutter. (See chapter 14.2).

16.4 THE WRAPPING ARM WILL NOT ROTATE.

a) The bolt that secures the wrapping arm during transport has to be removed so that the wrapping arm can move freely.

b) Check valve 1. (See fig. 13-2). Screw all the way in and test. Adjust to required power.

c) The safety valve, (S3, fig. 13-2), can be leaking, so that the oil is passing by the wrapping arm motor. Dismantle and try out if the sliding shaft can move freely .

d) The control valve, may be blocked. Dismantle and check if the valve works normally. Do not use sharp tools

e) Check if the oil motor is working
Ask your dealer for advice BEFORE you make the problems bigger and repairing more difficult

f) If the emergency stop* has been activated. To start the machine the control box must be reset (See also chapter 5.0).

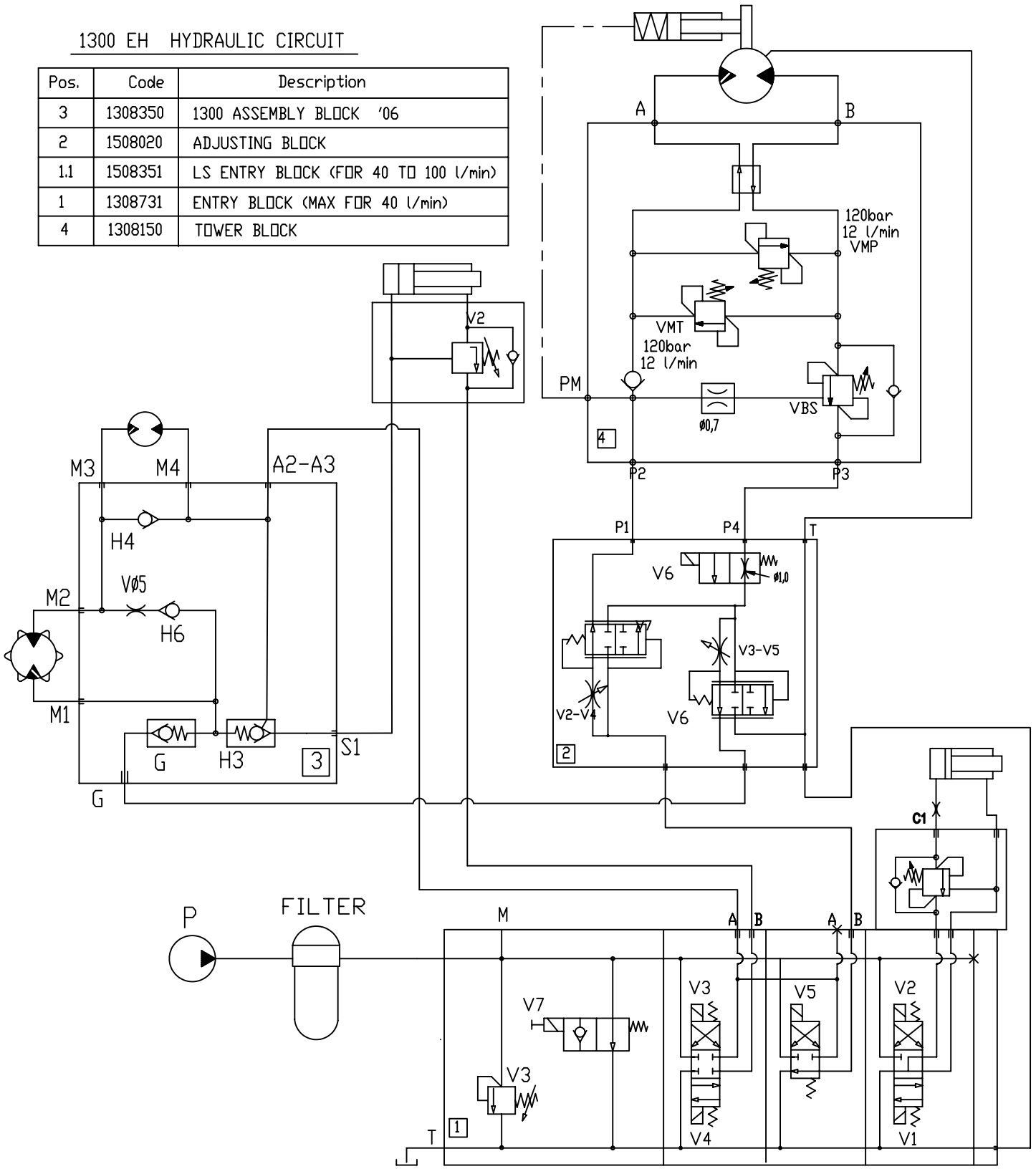
16.5 THE ROLLER WILL NOT ADJUST.

I. Is the Solenoid valve receiving enough electric power ?
When the power source is tapped by several users at ones, the voltage can fall so much that all the functions will cut out, or only the width regulating. Check the power source and measure the voltage.

I. **Check the bypass valve**
If this is receiving enough power and has free flow, the problem must lie in the solenoid valve.

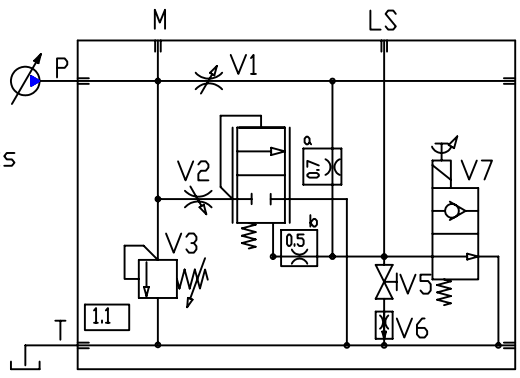
1300 EH HYDRAULIC CIRCUIT

Pos.	Code	Description
3	1308350	1300 ASSEMBLY BLOCK '06
2	1508020	ADJUSTING BLOCK
1.1	1508351	LS ENTRY BLOCK (FOR 40 TO 100 l/min)
1	1308731	ENTRY BLOCK (MAX FOR 40 l/min)
4	1308150	TOWER BLOCK



OPTIONAL

For High flow
or Load sensing hydraulics



18.0 Declaration of conformity

EC DECLARATION OF CONFORMITY

CCORDING TO DIRECTIVES 8 9/392/336 /EEC AS AMENDED

Manufacturer:

TANCO ENGINEERING Co Ltd
BAGENALSTOWN
CO CARLOW
IRELAND

CERTIFIES THAT THE FOLLOWING PRODUCT:

TANCO AUTOWRAP

MODEL: 1300

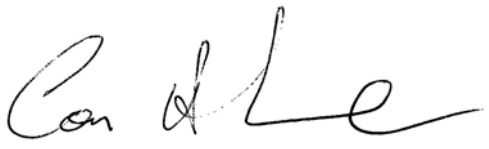
SERIAL NO:

To which this declaration relates, corresponds to the essential requirements of the Directive *89/392/336/EEC* as amended.

To conform to these essential health and safety requirements, the provisions of the following harmonized standards were particularly considered:

EN 292-1,2, EN 294, EN *1152,* prEN 703, prEN 811, prENl553, prEN 982.

DATE 21.12.07 **SIGNATURE:**



Con Hourihane
TECHNICAL MANAGER